WHAT IS CLAIMED IS:

1. A sensor for implantation within a blood vessel, comprising:

a support, having a first side for contacting the wall of the vessel and a second side for facing radially inwardly toward the center of the vessel; and

a sensor carried by the support and having a sensing surface thereon;

wherein the sensing surface is spaced radially inwardly from the first side and wherein the sensing surface includes a layer that minimizes the formation of thrombus.

2. A sensor as in Claim 1, wherein the layer comprises an anticoagulant.

3. A sensor as in Claim 2, wherein the anticoagulant is heparin.

4. A sensor as in Claim 1, wherein the layer comprises a hydrogel.

5. A sensor as in Claim 4, wherein the hydrogel is selected from the group consisting of poly (ethylene glycol), poly(N-vinyl pyrrolidone), and poly(hydroxyethylmethacrylate).

6. A sensor as in Claim 1, wherein the layer releases a pharmacological agent.

7. A sensor as in Claim 6, wherein the pharmacological agent inhibits cell proliferation or migration.

8. A sensor as in Claim 1, further comprising a transmitter on the support, for transmitting information from the sensor to an external receiver

9. A sensor as in Claim 1, wherein an inductive link supplies power to the transmitter.

10. A sensor as in Claim 1, further comprising a thin film rechargeable battery carried by the support.

11. A sensor as in Claim 1, further comprising a battery carried by the support.

12. A sensor as in Claim 1, wherein the support comprises an enlargeable frame.

13. A sensor as in Claim 12, wherein the support comprises an expandable tubular body.

14. A sensor as in Claim 1, wherein the support comprises a balloon expandable stent.

15. A sensor as in Claim 1, wherein the support comprises a self-expandable stent.

16. A sensor as in Claim 1, wherein the sensor is a pressure sensor.

17. A sensor as in Claim 1, wherein the sensor is a flow sensor.

18. A sensor as in Claim 1, wherein the sensor is an optode.

19. A sensor as in Claim 1, wherein the sensor is an ion selective electrode.

20. A sensor as in Claim 1, wherein the sensor is a pH electrode.

21. A sensor as in Claim 1, wherein the sensor is an oxygen electrode.

22. A sensor as in Claim 13, further comprising a tubular sheath on the tubular body.

23. A sensor as in Claim 1, wherein the sensor contains an analyte permeable membrane and an enzyme gel layer.

24. A sensor as in Claim 23, wherein the enzyme is selected from the group consisting of glucose dehydrogenase, lactate oxidase, and cholesterol oxidase.

25. A sensor for implantation within a blood vessel comprising:

a support structure ;

a sensor housing carried by the support structure; and

a sensing surface exposed to the exterior of the housing;

wherein the sensor is configured to detect nitric oxide or a nitric oxide metabolite, and wherein the sensor can be implanted for a period of at least one week.

26. An implantable sensor as in Claim 25, wherein the support structure comprises a stent.

27. An implantable sensor as in Claim 25, wherein the support structure comprises a catheter.

28. An implantable sensor as in Claim 25, wherein the support structure comprises an expandable metal mesh.

29. An implantable sensor as in Claim 25, wherein the sensor housing is positioned on the luminal side of the support structure.

30. An implantable sensor as in Claim 25, wherein the sensor housing is positioned within an opening on the side wall of the support structure.

31. An implantable sensor as in Claim 25, further comprising a tubular sleeve surrounding the tubular support structure.

32. An implantable sensor as in Claim 31, wherein the tubular sleeve is on the radially outwardly facing surface of the tubular support structure.

33. An implantable sensor as in Claim 31, wherein the tubular sleeve comprises ePTFE.

34. An implantable sensor as in Claim 25, wherein the sensor comprises an ion-selective electrode.

35. An implantable sensor as in Claim 25, wherein the sensor is selected from the group consisting of amperometric electrodes, porphyrinic electrodes, and microchip electrodes.

36. An implantable sensor as in Claim 25, further containing an analyte permeable membrane and an enzyme gel layer.

37. An implantable sensor as in Claim 36, wherein the enzyme gel layer comprises nitrate reductase.

38. A method of retrieving an implantable sensor on a support comprising:

positioning a catheter with a first clip so that the first clip is adjacent to the sensor;

inflating a first balloon attached to the catheter so that the first clip is forced around the sensor;

deflating the first balloon;

inflating a second balloon so that the sensor is separated from the support; and

deflating the second balloon.

39. The method of Claim 38, wherein the step of positioning is accomplished under fluoroscopic guidance.

40. The method of Claim 38, wherein the sensor is bonded to the support by a degradable material.

41. A method of minimizing thrombus formation on an implantable sensor, comprising:

providing a sensor having a sensing surface thereon, wherein the sensor is adapted for implantation,

providing a coating on the sensing surface to minimize the formation of thrombus compared to the amount of thrombus that would have accumulated in the absence of the coating.

42. The method of Claim 41, wherein the coating comprises an anticoagulant.

43. The method of Claim 42, wherein the anticoagulant comprises heparin.

44. The method of Claim 41, wherein the coating comprises a hydrogel.

45. The method of Claim 44, wherein the hydrogel is selected from the group consisting of poly (ethylene glycol), poly(N-vinyl pyrrolidone), and poly(hydroxyethylmethacrylate).

46. The method of Claim 41, wherein the coating releases a pharmacological agent.

47. The method of Claim 46, wherein the pharmacological agent inhibits cell proliferation or migration.

48. The method of Claim 41, further comprising the step of providing a support for the sensor.